

IN THE CLAIMS:

Please amend claims 1- 24 as follows:

1. (Currently Amended) ~~Device~~ A device for measuring the contrast of fringes in a full-field Michelson interferometer comprising having at least one reference arm and one measurement arm co-operating with a ~~detection~~an output arm in order to produce an optical coherence tomography (OCT) system, ~~the~~said device comprising: ~~in its detection arm~~ means ~~of~~for deflecting two incoming perpendicular polarizations in two different emerging directions, said means for deflecting being arranged within the output arm interferometer as a substitution for a single polarizer.

2. (Currently Amended) ~~Device~~ The device according to claim 1, characterized in thatwherein the means ~~of~~for deflection comprise a Wollaston prism.

3. (Currently Amended) ~~Device~~ The device according to claim 2, characterized in thatwherein it is arranged to carry out measurements for path differences differing by $\lambda/2$ or $\lambda/4$.

4. (Currently Amended) ~~Device~~ The device according to claim 3, characterized in thatwherein it is arranged so as to obtain at least two measurements, strictly simultaneous and in phase opposition.

5. (Currently Amended) ~~Device~~ The device according to claim 2, ~~one of claims 2 to 4, characterized in that~~wherein it is arranged in order to carry out four measurements, and in that it also comprises means ~~to separate~~for separating a beam entering into the detection output arm into at least two separate beams, means of generating, in one of these two beams, an additional delay of $\lambda/4$ between the polarizations originating from the measurement arm and the reference arm of the interferometer, and means ~~of~~for reintroducing together the two beams thus processed into the Wollaston prism such that, on output from the latter, there are then four light beams.

6. (Currently Amended) ~~Device~~ The device according to claim 5, characterized in thatwherein the separator means comprise a single non-polarizing separator plate (BSP/M).

7. (Currently Amended) ~~Device~~ The device according to one of claims 5 or 6, characterized in thatclaim 5, wherein the delaying means comprise a quarter-wave plate (QOP/M).

8. (Currently Amended) ~~Device~~ The device according to one of claims 5 to 7, characterized in thatclaim 5, wherein the Wollaston prism (W) is arranged in a pupil plane.

9. (Currently Amended) ~~Device~~ The device according to one of claims 5 to 8, characterized in thatclaim 5, wherein it also comprises means to for arbitrarily orient orienting the polarizations of four incident beams relative to the Wollaston prism's (W) own axes.

10. (Currently Amended) ~~Device~~ The device according to claim 9, characterized in thatwherein the means of orientation for orienting comprise a half-wave plate (DOP/M) preceding the Wollaston prism (W).

11. (Currently Amended) ~~Method~~ A method for measuring the contrast of fringes in a full-field Michelson interferometer comprising including at least one reference arm and one measurement arm co-operating with a detection an output arm so as to produce an optical coherence tomography (OCT) system, the method comprising a deflection of two incoming perpendicular polarizations in two different emerging directions, by means of a Wollaston prism (W) situated in said detection output arm.

12. (Currently Amended) ~~Method~~ The method according to claim 11, characterized in that it comprisesfurther including measurements for path differences differing by $\lambda/2$ or $\lambda/4$.

13. (Currently Amended) ~~Method~~ The method according to claim 12, characterized in that it comprisesfurther including at least two measurements, strictly simultaneous and in phase opposition.

14. (Currently Amended) ~~Method~~ The method according to one of claims 11 to 13, characterized in that it comprisesclaim 11, further including four measurements, a separation into two of a beam entering the ~~detection~~ output arm, a generation, in one of the two beams produced, of an additional delay of $\lambda/4$ between the polarizations originating from the measurement arm and the reference arm of the interferometer, and a reintroduction of the two beams thus processed into the Wollaston prism such that, on output from the latter, there are then four light beams.

15. (Currently Amended) ~~Method~~ The method according to claim 14, characterized in that it also comprisesfurther including an arbitrary orientation of the polarizations of the four incident beams relative to the Wollaston prism's own axes.

16. (Currently Amended) ~~Method~~ The method according to claim 15, characterized in that wherein the measurements on the four beams are carried out simultaneously.

17. (Currently Amended) ~~Method according to one of claims 1 to 16, characterized in that it comprises~~ The method according to claim 1, further including, in the measurement arm, a compensation for the effects of focal chromatism of the eye.

18. (Currently Amended) ~~Method according to one of claims 1 to 17, characterized in that it comprises~~ The method according to claim 11, further including, in the reference arm, means for compensating for the dispersion of the path differences.

19. (Currently Amended) ~~Method according to one of claims 1 to 18, characterized in that it comprises~~ The method according to claim 11, further including a control of ~~the~~ a wave front analyser (SH) obliging it to work in defocussed mode.

20. (Currently Amended) System A system for examining the eye by *in vivo* tomography, comprising:

- a Michelson interferometer, comprising at least one measurement arm and one reference arm co-operating with ~~a~~ detec~~tion~~ an output arm in order to produce a full-field OCT setup,

- adaptive optical means, arranged between the measurement arm of the interferometer and an eye to be examined or within said measurement arm, carrying out the correction of the wavefronts originating from the eye as well as those reaching the eye, and

- means of detection, arranged downstream of the interferometer or within its detec~~tion~~ output arm, making it possible to carry out the interferometric measurement according to the optical coherence tomography (OCT) principle, and

~~characterized in that it also comprises~~ a device for measuring the contrast of fringes in a full-field Michelson interferometer, ~~this~~ said device comprising in the detec~~tion~~ output arm means for deflecting two incoming polarizations in two different emerging directions.

21. (Currently Amended) System The system for examining the eye according to claim 20, ~~characterized in that it also comprises~~ further including a sighting device comprising at least one moving target having a programmable shape and trajectory, said target being displayed on an appropriate screen, visible by both eyes, during the examination period.

22. (Currently Amended) ~~System~~ The system according to one of claims 20 or 21, characterized in that claim 20, wherein the reference source (SLD) is inserted into the optical path between the adaptive optical means (MD) and the eye to be examined (OEX).

23. (Currently Amended) ~~System~~ The system according to one of claims 20 to 22, characterized in that it comprises claim 20, further including, in the measurement arm, means for compensating for the effects of focal chromatism of the eye.

24. (Currently Amended) ~~System~~ The system according to one of claims 20 to 23, characterized in that it comprises claim 20, further including, in the reference arm, means for compensating for the dispersion of the path differences.